



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,748	11/20/2006	Morten Rise Hansen	3605	2867
21834 7590 12/10/2010 BECK AND TYSVER P.L.L.C. 2900 THOMAS AVENUE SOUTH SUITE 100 MINNEAPOLIS, MN 55416				
EXAMINER				
FORTUNA, JOSE A				
ART UNIT		PAPER NUMBER		
1741				
MAIL DATE		DELIVERY MODE		
12/10/2010		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/590,748

Applicant(s)

HANSEN, MORTEN RISE

Examiner

José A. Fortuna

Art Unit

1741

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/GS/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The amendment to claim 1 is improper, because it does not included all the wording of the original claim, i.e., the claim does not include the phrase "in particular" which was in the claim received on May 27, 2010, see below. If applicants needed to delete that phrase, it should have been lined-through. In order to advance the prosecution of the application, the examiner has considered that the phrase is still in the claim and should be explicitly deleted, (if it was the purpose), in the next response.

05/27/2010 12:58 6129159637

SECK & TYBBER

PAGE 05/11

RECEIVED
CENTRAL FAX CENTER

10/590,748

MAY 27 2010

PATENT

AMENDMENTS TO CLAIMS

1. (Currently amended) A method for producing a fibrous web suitable for the production of hygiene articles, in particular for incontinence articles, disposable diapers, panty liners or sanitary napkins, or absorbent liners, the fiber content of which consists ~~exclusively essentially~~ of cellulose fibers of natural origin, comprising the following procedural steps:
- forming an essentially uniformly thick, dry fiber layer from loose fibers having a low moisture content that is in the range of residual moisture,
 - ~~pressing and~~ embossing the fiber layer to obtain a fibrous web and forming an embossed pattern with compressed fiber bond zones in which the fibers are essentially interconnected and self-bonding,
 - moistening the fibrous web with a water-latex mixture on at least one of the outer zones,
 - ~~after the step of embossing,~~ precipitating the latex by drying while bonding the fibers inside and outside the fiber bond zones,
- whereby the resulting fibrous web exhibits dust due to fluff that is less than 0.1% of that of the web prior to the steps of embossing, moistening and precipitating.

Claim Objections

2. Claims 4 and 5 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The independent claim, claim 1, recites that the latex levels vary from 5 to 1%, yet the indicated claims broaden the claims, i.e., the amount of latex is greater than the one of claim 1 and therefore, they fail to further limit the independent claim.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-5, 7-20 and 22-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is vague and indefinite, because a broad range or limitation followed by linking terms (e.g., preferably, maybe, for instance, especially, *in particular*) and a narrow range or limitation within the broad range or limitation is considered indefinite since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 1-5, and 7-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Schmidt et al., US Patent No. 6,893,525.

Schmidt et al. teach a method of making a dry-laid web, i.e., air laid, in which papermaking fibers are deposited onto a foraminous belt/fabric with low moisture content, i.e., air laying technique, then the web is pressurized and embossed and then a latex binder is added to either one surface of the formed web or to both surfaces of the web and then the binder is cured to bond the fibers, see column 4, line 45 through column 5, line 8. Schmidt et al. teach that such sequence of steps is very common in the art and it is called, pre-embossing process, which is as its name indicates the embossing is done prior to the bonding of it, which is opposed to the post-embossing technique in which the bonding is done prior to the embossing, see column 1, lines 28-33, see also US Patent No. 4,476,078. Schmidt et al. teach the formation of webs with grammage in the claimed range, i.e., overlapping grammage, see column 5, lines 56-62, i.e., they disclose basis weight between 25 to 400 pounds per 3000 ft², (converts to about 40 to about 651 g/m²). As to the coating grammage of the latex, Schmidt et al., teach that the levels of latex is from about 5 to 35% based in the dry web and dry binder, i.e., total weight, and as stated

above the grammage of the web in the range from about 40 to 651 g/m², which means that the coating web can be as low as $40 \times 0.05 = 2 \frac{g}{m^2}$, which falls within the claimed range. They also teach the use of super absorbent polymers, column 6, lines 14-22 and teach that the air laid webs can be made by the methods of US Patent No. 5,128,082 which is incorporated by reference and such reference teaches that the SAP can be either added to the fibers or added to the consolidated web, see column 5, lines 7-26. Schmidt et al. teach that the binder, which is preferably latex, is sprayed onto the web and it is well known that when latex is sprayed, the latex is an very diluted aqueous solution, i.e. greater than 90% water, so that the binder particles do not clog the spraying nozzles¹. Schmidt et al. teach also the use of vacuum to assist the penetration of the latex into the fibers, see figure 1, stations 42 and 48 and better explained in the US Patent No. 5,128,082 which was incorporated by reference. Even though Schmidt et al. do not explicitly teach the lineal pressure², they incorporated by reference the teachings of US patent No. 4,612,231, and this patent shows that it is common to consolidate the web at lineal pressure between 50 to 300 lbs/lineal inch, see column 5, lines 59-63 of the mentioned patent, such range overlapping the claimed range. As to the configuration of the embossing rolls, Schmidt et al. teach that it is preferred for the roll to have sinusoidal configurations, with raised bosses, i.e., tooth bosses, see column 8, lines 33-63.

Schmidt et al. clearly teach, see paragraph bridging columns 5 and 6, that the web comprises essentially cellulosic fibers, see column 5, lines 59-63, and that synthetic fibers

¹ See US 5,824,191 see examples or US Patent Application Publication No. 2005/0045295, see ¶-[0102]-[0104], Just to mention a couple.

could be used. Even though Schmidt et al. do not explicitly teach the claimed property, i.e., the dust due to fluff, this property must be inherent to the produced web, since they are made using the same ingredients, i.e., raw materials, and using the same process of making. It has been held that "Where the claimed and prior art apparatus or product is identical or substantially identical in structure or composition, a *prima facie* case of either anticipation or obviousness has been established. *In re Best*, 562 F. 2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). In other words, when the structure or product recited in the reference is substantially identical to that of the claims, the claimed properties or functions are presumed to be inherent.

Note that claim 21 has been rewritten as a product by process claim and the web of the cited reference, as explained *supra*, seem to be the same as the one claimed. In the event any differences can be shown for the product -by-process claim 1 as opposed to the product taught by the reference Schmidt et al. such differences would have been obvious to one of ordinary skill in the art as routine modification of the product in the absence of a showing unexpected results, see *In re Thorpe*, 227 USPQ 964 (CAFC 1985). As the afore mentioned claims are product by process claims, it is deemed that "[A]ny difference imparted by the product by process claims would have been obvious to one having ordinary skill in the art at the time the invention was made because where the examiner has found a substantially similar product as in the applied prior art the burden of proof is shifted to the applicants to establish that their product is patentably distinct, ..." *In re Brown*, 173 U.S.P.Q. 685, and *In re Fessmann*, 180 U.S.P.Q. 324. Further, "[P]rocess

² Since it is not known what exerts this pressure, i.e., the consolidation pressure or the embossing pressure, for the

limitations are significant only to the extent that they distinguish the claimed product over the prior art product." In re Luck, 177 U.S.P.Q. 523 (1973).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 1-5 and 7-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaiser et al., US patent No. 4,296,161.

Kaiser et al. teach a dry-formed, air-formed, web, which is embossed and the bonded with latex at rate falling within the claimed range, i.e., not more than 5.1 g/m^2 , see abstract. Kaiser et al. teach also that the web has grammage within the claimed range and embossing pressures which also fall within the claimed range, see column 3, lines 46-63. The temperature of the curing of the latex falls also within the claimed range, see column 4, lines 53-68. Kaiser et al. fail to teach the dilution of the latex at the claimed range. However, as discussed above the dilution of the latex at the claimed levels is well known in the art and therefore one of ordinary skill in the art would have reasonable expectation of success if the binder is diluted to the claimed range.

Response to Arguments

11. Applicant's arguments with respect to claims 1-25 have been considered but are moot in view of the new ground(s) of rejection.
12. Applicant's arguments filed on November 15, 2010 have been fully considered but they are not persuasive.
13. Applicants argue that the cited reference does not teach an air-laid web, but a wet laid one. The examiner is baffled about such assertion, since the reference clearly teaches that the web is air-laid, see title, abstract and throughout the specification, some of the excerpt of the specification have been included for applicants convenience, see below.

US 6,893,525 B1

(12) **United States Patent**
Schmidt et al.

(19) Patent No.: **US 6,893,525 B1**
(45) Date of Patent: **May 17, 2005**

- (54) **METHOD FOR EMBOSSED AIR-LAID WEBS USING LASER ENGRAVED RELATED EMBOSING ROLLS**
- (75) Inventors: **Bradley G. Schmidt, Green Bay, WI (US); James R. Vande Hout, DuPon, WI (US); James M. Zadran, Green Bay, WI (US); Edward J. Yock, Appleton, WI (US)**
- (73) Assignee: **Port James Corporation, Deerfield, IL (US)**
- (*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(e) by 0 days.
- (37) Appl. No. **09/562,302**
- (22) Filed: **May 1, 2000**

Related U.S. Application Data

- (50) Provisional application No. 60/032,098, filed on May 5, 1999.

- (51) Int. Cl. **B30B 3/00**
- (52) U.S. Cl. **156/209; 156/62.2; 156/219; 156/246; 264/119; 264/122**
- (53) Field of Search **156/209; 156/62.2; 264/119; 264/122**

References Cited

U.S. PATENT DOCUMENTS

- 3,706,826 A 5/1983 Aukel
3,822,336 A 4/1981 Loh
3,871,068 A 10/1981 Youngblood et al.
2,798,063 A 4/1957 Morse
4,196,219 S 4/1989 Becell
2,943,560 A 7/1960 Webb et al.
3,665,751 A 11/1962 Gledhill et al.

- 3,447,072 A 10/1967 Becell et al.
3,425,347 A 2/1969 Nord
3,608,047 A 9/1971 Wiggins
3,672,461 A 6/1973 Knapley et al.
3,881,860 A 5/1975 Whitford et al.
RE 28,786 E 10/1976 Toftsch
4,254,838 A 4/1979 Pina
6,226,237 A 10/1980 Lavanage
6,260,443 A 4/1981 Lindley et al.
4,290,161 A 10/1981 Kavea et al.
6,330,208 A 7/1982 Mandemakers
5,443,917 A 10/1984 Tso et al.
5,436,036 A 10/1984 Tso
5,482,306 A 11/1984 Johnson
5,403,726 A 11/1984 Harnesried
5,614,231 A 9/1988 Brochette et al.
5,654,484 A 12/1987 Wagner
5,695,506 A 5/1989 Broom
4,669,645 A 10/1987 Soudana
5,811,032 A 2/1989 Schult
4,902,950 A 2/1990 Eschery et al.
4,917,603 A 4/1990 Meier
5,138,983 A 7/1992 Makos

(Continued)

Primary Examiner—Sam Chien Yao

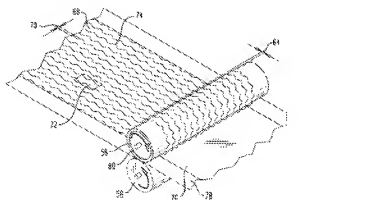
(74) Attorney, Agent, or Firm—Michael W. Farrell

(57)

ABSTRACT

A method of making an embossed air-laid absorbent sheet includes depositing a dry web of fibers on a fibrous support; embossing the compressed web with a laser engraved roll provided with a hard rubber embossing surface having an embossing pattern with a depth of from about 5 mils to about 100 mils. The hard rubber embossing surface is biased toward a second embossing surface selected from the group consisting of the surface of a nip roll and a fibrous web support engaging a support embossing roll. The process further includes bonding the web.

32 Claims, 2 Drawing Sheets



SUMMARY OF THE INVENTION

There is provided in accordance with the present invention a method of making an embossed air-laid absorbent sheet product. The inventive process includes: a) depositing a dry web of fibers on a foraminous support; b) compacting the fiber web; c) embossing the compacted web with a laser engraved roll with a hard rubber embossing surface provided with an embossing pattern having a depth of from about 0.005 inch (5 mils) to about 0.125 inch (125 mils), the hard rubber embossing surface being biased toward a second embossing surface selected from the group consisting of the surface of a nip roll and a foraminous web support engaging a support roll; and d) bonding the fiber web.

A particularly preferred process of making an embossed air-laid absorbent sheet product in accordance with the

DETAILED DESCRIPTION

The invention is described in detail below for purposes of illustration and exemplification only. Various modifications will be readily apparent to those of skill in the art within the spirit and scope of the present invention which is set forth in the appended claims.

In general, the present invention is directed to a method of making an air-laid absorbent sheet embossed with a heated, hard rubber patterned roll. The process involves: a) depositing a dry web of fibers on a foraminous, that is, porous support; b) compacting the fiber web; c) embossing the compacted fiber web with a laser engraved roll with a hard rubber embossing surface provided with an embossing pattern having a depth of from about 5 mils to about 125 mils, the hard rubber embossing surface being biased toward a second embossing surface selected from the group consisting of the surface of a nip roll and a foraminous web support engaging a support embossing roll; and d) bonding the fiber web.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure in the art of "Making Embossed Air-Laid Webs."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to José A. Fortuna whose telephone number is 571-272-1188. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew J. Daniels can be reached on 571-272-2450. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/José A Fortuna/
Primary Examiner
Art Unit 1741

JAF